

ARBACAUSKAS, A., sportsmen-planerist (g. Kaunas)

With glider pilots of Kaunas. Kryl.rod. 6 no.4:10 Ap '55.  
(Kaunas-Gliders (Aeronautics)) (MIRA 8:9)

ARBACHAUSKAS, A. [Arbacauskas, A.] (g.Vil'nyus)

New standard glider. Kryl.rod. 12 no.2:20-21 F '61. (MIRA 14:6)  
(Glider (Aeronautics))

ARBACHAUSKAS, A.

A new Soviet standard glider. Repules 14 no.7:17 J1 '61.

AGOSHKOV, M.I.; VORONYUK, A.S.; ARBACHAKOVA, G.I.

Angles of inclination of main ore chutes. Fiz.-tekhn. probl.  
razrab. pol. iskop. no.5:66-69 '65. (MIRA 19:1)

1. Institut gornogo dela imeni Skochinskogo, Moskva.

ARBAL, J.; LESKOVA, Zuzana; LONGAUEROVA, Daria

Effect of lowered incubation temperatures on Nucleic acid and protein synthesis by a mesophilic and a psychophilic bacterium.  
Folia microbiol. (Praha) 10 no.3:168-175 My'65.

1. Department of Microbiology, Research Institute of the Refrigerating Industry, Bratislava.

ARBAROV, B. M.

"The Motion of a Solid Body under Constraints Subject to Friction", Trudy Seminara po Teoriy Mashin, Vol 11, No 51, 1951, page 16.

XXII - 2

In the same issue: "The Dynamic Investigation of Mechanisms," page 36

1. ARBAT, IY
2. USSR (600)
4. Clubs
7. Club of 500 children, Rabotnitsa 31 no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

ARBAT, YU.

Moving Pictures

They help create films. Rabotnitsa 30, No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, March 1952. Unclassified.



ARBAT, Yu. A.

"Novoye i maloizvestnoye v izuchenii russkogo iskusstva."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,  
Moscow, 3-10 Aug 64.

ARBATOV, A.A.

Upper Jurassic reefs of the Northern Caucasus. Neftegaz, geol.  
i geofiz. no.11:3-6'63 (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochmyy  
neftyanoy institut, Moskva.

SOLOV'YEV, A.V.; ARBATOV, A.A.; TURPAYEVA, G.Ye.

Carbonate reservoirs in Mesozoic sediments of Ciscaucasia and  
the Northern Caucasus. Geol. nefti i gaza 9 no.6:40-44 Je  
165. (MIFA 18:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy  
neftyanoy institut, Moskva.

ARBATOVA, T. D.

USSR/Medicine - Dysentery

Jul 53

"Characteristic Traits of the Epidemiology of Dysentery," T. D. Arbatova

Zhur Mikro, Epid, 1 Immun, No 7, p 24

The incidence of dysentery varies from one city rayon to another and within the individual rayons, depending on sanitary conditions. The relative weight of summer infections with dysentery in the total annual number of infections is decreasing. The proportion of adults infected with dysentery is on the increase, while the number of infected children is decreasing. The proportion of dysentery in the total incidence of intestinal diseases shows a slight rise due to better methods of diagnosis.

267T39

POLAND/Chemical Technology - Chemical Products and Their  
Application. Fats and Oils. Waxes. Soaps and Deter-  
gents. Flotation Agents. H.

Abs Jour : Ref Zhur - Khimiya, No 10, 1959, 36654  
Author : Bronisz, H., Arbatowska, M., Lesczynska, H., Oledzka, R.,  
Staniszewska, L.  
Inst : -  
Title : The Determination of the Peroxide Number at the Evaluation  
of Vegetable Food Oils.  
Orig Pub : Roczn. Panstw. zakl. hig., 1958, 9, No 3, 255-266.  
Abstract : The causes and the characteristics of peanut, soybean and  
rapeseed oils during production and the annual storage in  
warehouses have been investigated. It was established  
that the increase in liquid and solid oils is not an indi-  
cation of rancidity, because such oils possess little aci-  
dity; for example, 0.84% (0.25%, taking oleic acid into  
account), and the peroxide number (PN) is equal to, or

Card 1/2

11-1-55

ARBATSKAYA, A.N.; ZHEINDEV, I.S.; ZIRNIT, U.A.; SUSHCHINSKIY, M.M.

Low-frequency vibrational spectra of single crystals of triglycine sulfate and Rochelle salt in phase transitions. Kristallografiia 10 no.3:335-337 My-Je '65. (MIRA 18:7)

1. Institut kristallografii AN SSSR.

ZOGRABYAN, Suren Gegamovich; ARBATSKAYA, Yu.D., redaktor; GLUKHOYEDOVA,  
G.A., tekhnicheskii redaktor

[Diagnostic surgery in diseases of the brain and spinal cord]  
Diagnosticheskie operatsii pri zabolevaniakh golovnogo i spin-  
nogo mozga. Moskva, Gos.izd-vo med. lit-ry, 1955. 195 p.  
(BRAIN--SURGERY) (SPINAL CORD--SURGERY) (MLRA 9:2)

ARBATSKAYA, Yu.D.; KOGAN, V.M.; PETROV, D.I.; PIS'MENNYY, R.Ya.; CHULKOVA,  
M.S.

Studying patients in the first stage of hypertension with an initial cerebral syndrome in connection with their working conditions. Zhur. nevr. i psikh. 56 no.6:472-477 '56.  
(MIRA 9:8)

1. Kafedra vrachebno-trudovoy ekspertizy (zav. prof. N.K.Bogolepov) TSentral'nogo instituta usovershenstvovaniya vrachey i TSentral'nyy institut ekspertizy trudosposobnosti i trudovogo ustroystva invalidov (dir. - prof. O.I.Sokol'nikov), Moskva.

(HYPERTENSION, compl.

funct. disord. of brain in telegraphers, determ. of clin. manifest.)

(BRAIN, dis.

funct. disord. in telegraphers with hypertension, determ. of clin. manifest.)

(OCCUPATIONAL DISEASES

cerebral funct. disord. in telegraphers with hypertension, determ of clin. manifest.)



DISABILITY, YU.D.

BOGOLEPOV, N.K.; ARBATSKAYA, Yu.D.

[Disability evaluation in case of brain injuries] Vrachebno-trudovaya ekspertiza pri travmakh golovnogogo mozga. Moskva.  
Medgiz, 1957. 101 p. (MLRA 10:4)

(BRAIN--WOUNDS AND INJURIES) (DISABILITY-EVALUATION)

SOKOL'NIKOV, O.I.; ARBATSKAYA, Yu.D.; DUKHOVNAYA, O.L.

Prophylactic significance of rational rehabilitation in sluggish and latent rheumatic fever. Vop.revm. 2 no.3:65-69 JI-S '62.

(MIRA 16:2)

1. Iz kafedry vrachebno-trudovoy ekspertizy (zav. - prof. I.I. Sokol'nikov) Tsentral'nogo instituta usovershenstvovaniya vrachey (rektor M.D. Kovrigina), Moskva.

(RHEUMATIC FEVER)

(OCCUPATIONAL THERAPY)

ARBATSIAUSKIENE

LAZUTKA, P., med. m. kand.; BITE, A.; ARBACIAUSKIENE, L.

On the problem of improved sanitary conditions of dairy farms, of the quality of milk and of working conditions for milk maids in the Republic. Sveik. apsaug. 7 no.4(76):36-42 Ap '62.

1. Vilniaus Epidemiologijos ir higienos m. t. institutas.

(DAIRYING)

L 21129-66 ENT(m)/RKP(j) FM  
ACC NR: AP6011959

SOURCE CODE: UR/0070/65/010/003/0335/0337

AUTHOR: Arbatskaya, A. N.; Zheludev, I. S.; Zirnit, U. A.; Sushchinskiy, M. M.

ORG: Institute of Crystallography, AN SSSR (Institut kristallografii AN SSSR)

TITLE: Low-frequency vibrational spectra of triglycine sulphate and rochelle salt  
monocrystals during phase transitions

SOURCE: Kristallografiya, v. 10, no. 3, 1965, 335-337

TOPIC TAGS: phase transition, Raman spectrum, Curie point, light scattering, crystal  
lattice vibration, quartz crystal, crystal symmetry, single crystal

ABSTRACT: Raman scattering spectra of monocrystals of triglycine sulfate are  
studied near the Curie temperature (+49°C); and those of Rochelle salt, near the  
upper Curie point (+24°C). According to the Ginsburg-Levanyuk theory, the spectral  
structure of the scattered light should change markedly near the phase transition  
points of the second kind. This change should be characterized by a decrease in  
the frequency of certain lattice vibrations when the temperature is raised. At the  
transition point of the second kind the frequency of these vibrations should become  
zero and the corresponding Raman lines intensify. Experiments with quartz appear  
to support the G-L theory.

Triglycine sulfate undergoes a change in symmetry upon passing through the Curie  
point. A right-angle prismatic monocrystal was illuminated along the Y and then  
along the Z axis, and the scattered light was observed along the Z axis in both  
cases. A line at 47 cm<sup>-1</sup> appeared in the Raman spectra when the direction of

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UDC: 548.0: 537

L 21129-66

ACC NR: AP6011959

illumination is changed from the Y to the X direction. Features of the spectra are compared with published data in a table. In order to observe the expected increase in scattered light intensity the temperature of the sample was varied slowly through the phase transition, but no change was observed in the Raman spectra. Similar experiments were conducted with piezoelectric salt crystals with similar results. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 20 / SUBM DATE: 08Jun64 / ORIG REF: 008 / OTH REF: 004

Cord 2/2 dda

KRESHKOV, A.P.; KHUDYAKOVA, T.A.; AUROV, A.P.; ARBATSKIY, A.P.

Chronoconductometric method for determining maleic anhydride in its  
copolymer with styrene and sodium styromaleinate. Plast. massy no.7:  
51-55 '65. (MIRA 18:7)

ARBATSKIY, A. V.

"Synthesis of Several Homologues of N-Substituted Pyrrole and Pyrrolidine,"  
Zhur. Obshch. Khim., 19, No.9, 1949.

Lab. Organic Chemistry im. Zelinskiy, Moscow State U.

ARBATSKIY, A. V.

"N-Phenylpyrrolidine, and Its Reactions." Sub 20 Apr 51,  
Moscow Order of Lenin State U imeni M. V. Lomonosov.

Dissertations presented for science and engineering degrees  
in Moscow during 1951.

SO: Sun. No. 480, 9 May 55

*Cand Chemical Sci.*



YUR'YEV, Yu.K.; KORSAKOVA, I.S.; ARBATSKIY, A.V.

Nitration, bromination and carboxylation of N-phenylpyrrolidine.  
Izv.Akad.nauk SSSR; Khim.otd. no.2:166-171 Mar-Apr 51. (CLML 20:7)

1. Laboratory of Organic Chemistry imeni N.D. Zelinskiy of Moscow  
State University.

ARBATSKIY, A. V.

USSR.

The sulfonamides containing the pyrrolidine cycle.  
Yu. K. Yur'ev and A. V. Arbat'skiy (Moscow State Univ.).  
Vestnik Akad. Nauk, 8, No. 2, Ser. Khim. i Estestv.  
Nauk No. 1, 83-7(1953). The following compds. of the

type  $4-(CH_2CH_2CH_2CH_2N)C_6H_4SO_2NRR'$  (I) [R, R',  
m.p. ( $^{\circ}C$ ), and % yield given] prepd. from NH<sub>2</sub> and dif-  
ferent amines with *p*-(1-pyrrolidinyl)benzenesulfonyl chlo-  
ride, in agreement with theory (C.A. 32, 5500) all were in-  
active against bacteria *in vitro*; they were not investigated  
*in vivo*: H, H, 193° (from hot water) 65; H, 2-pyridyl,  
232° (from dil. alc.), 66; H, 4-chloro-5-methyl-2-pyrimidinyl,  
red-brown amorphous powder sol. in acids (pink) and alkali-  
es (yellow), decomp. 315°, 59.8; (NRR' = 11-pyrrolidinyl),  
197.5° (from glacial AcOH), 64; H, cyclohexyl, light  
violet, 298° (from glacial AcOH), 71; H,  $CH_2CH_2OH$ ,  
128-9° (from water) 73%. A. Sementsov.

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Jan

ARBATSKIY, H. V.

USSR

Dyes containing the pyrrolidine rings. Yu. K. Yur'ev and A. V. Arbat'skii. *Vestnik Moskov. Univ.* 9, No. 12, Ser. Fiz.-Mat. i Estestven. Nauk No. 8, 63-70 (1954).  
Reaction of 1-phenylpyrrolidine (I) with diazonium salts yields azo dyes contg. the pyrrolidine ring; reaction of I with BzH and Michler's ketone yields triphenylmethane dyes contg. pyrrolidine rings. The pyrrolidine analogs of the benzenoid dyes show a displacement of the absorption max. toward the longer wave lengths. To 1.87 g.  $\text{NaNO}_2$ , 1.01 g.  $\text{NaOH}$ , and 13.7 ml.  $\text{H}_2\text{O}$  was added over 0.5 hr. with stirring a mixt. of 4 g. I, 2.53 g.  $\text{PhNH}_2$ , and 5.9 ml.  $\text{HCl}$  (d. 1.17) at below  $10^\circ$ , to yield 27% red 4-pyrrolidinyl-azobenzene, m.  $157^\circ$ , giving red color in acids and orange in bases. To 12.1 g. sulfanilic acid in 20 ml. 2N  $\text{NaOH}$  was added at  $0-8^\circ$  8 ml. concd.  $\text{HCl}$ , followed by 5 g.  $\text{NaNO}_2$  in 50 ml.  $\text{H}_2\text{O}$ , and the soln. was added at  $0-3^\circ$  to 7.3 g. I in 50 ml.  $\text{H}_2\text{O}$  and 8 ml. concd.  $\text{HCl}$ . After 1.5 hrs. there was obtained, after neutralization with  $\text{NaOH}$ , 89% Na salt of 4-pyrrolidinyl-1'-sulfazobenzene, orange crystals (from  $\text{H}_2\text{O}$ ). The free acid, violet, m.  $211^\circ$ , gave a red color with acids, yellow with bases. Coupling of I with anthranilic acid in 4%  $\text{HCl}$  gave 28.5% 2-carboxy-4'-pyrrolidinylazobenzene, isolated as the Na salt, violet powder, giving red color in acids and yellow in bases. Anilidine and I gave 65% orange 4-methoxy-1'-pyrrolidinylazobenzene, m.  $182-4^\circ$  (from pyridine or  $\text{EtOH}$ ). I (8.8 g.), 2.1 g.  $\text{BzH}$ , and 2 g. powd.

Chair Org. Chem.

ZnCl<sub>2</sub> heated 4 hrs. to 100°, then steam distd. gave a residus which yielded 81% leuco base, bis(*p*-pyrrolidinylphenyl)-phenylmethane, colorless solid. The latter treated with PbO<sub>2</sub> in 5% HCl and AcOH; freed of Pb with Na<sub>2</sub>SO<sub>3</sub> and pptd. with ZnCl<sub>2</sub> gave a blue-green ZnCl<sub>2</sub> salt of bis(*p*-pyrrolidinyl-phenyl)phenylchloromethane, which gave green solns. in EtOH or H<sub>2</sub>O. The latter gave with aq. NaOH 91.5% of the carbinol base, C<sub>21</sub>H<sub>26</sub>ON<sub>4</sub>, m. 218-17° (from ligroine), which acquires blue-green color in air. To 5.4 g. Michler's ketone and 14.7 g. I was added gradually 5.5 g. POCl<sub>3</sub> and after 3 hrs. at 100° the mixt. was made alk. with NaOH, steam distd., and the residue boiled with dil. HCl 1 hr. to give (on passing out of the ext. with NaCl) 70% bis(*p*-dimethylamino-phenyl)(*p*-pyrrolidinylphenyl)chloromethane, violet-green, which gave violet solns. which lost color on acidification. Treatment with aq. NaOH gave the free carbinol base, colorless crystals turning violet in air. I (2.9 g.) and 3.2 g. 1-(*p*-aminoophenyl)pyrrolidine in 15 ml. concd. HCl and 15 ml. H<sub>2</sub>O were cooled to 0°, treated with 4 g. K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> and stirred 3 hrs. with cooling. Addn. of ZnCl<sub>2</sub> gave green 4,4'-bis(*p*-pyrrolidinylphenyl)chloramine, in the form of the ZnCl<sub>2</sub>-HCl salt, C<sub>21</sub>H<sub>26</sub>N<sub>4</sub>Cl<sub>2</sub>K<sub>2</sub>Zn; this gives green solns. in EtOH or H<sub>2</sub>O.

G. M. Kosolapoff

ARRATSKIY AV

V Preparation of N-phenylpyrrolidine from 1,4-butanediol  
and aniline in the presence of aluminosilicate Yu. K.

Yur'ev, I. I.; Kuznetsov, V. I.; Kuznetsov, V. I.; Kuznetsov, V. I.

Chem. Abstr. 1977, 96, 127777d

ARBATSKIY, A. V.  
AID P - 3582

Subject : USSR/Chemistry  
Card 1/1 Pub. 152 - 19/20  
Authors : Yur'yev, Yu. K., A. V. Arbatskiy, I. K. Korobitsyna,  
and V. M. Andreyev  
Title : Preparation of N-phenylpyrrolidine from 1,4-butanediol  
and aniline in the presence of aluminosilicate  
Periodical : Zhur. prikl. khim., 28, 7, 781-782, 1955  
Abstract : Under optimum reaction conditions, the yield of  
N-phenylpyrrolidine obtained was 68.1%. The prepara-  
tion is described in detail. One table, 5 references,  
all Russian (1937-1950).  
Institution : None  
Submitted : Je 30, 1954

ARBATSKIY, A.V.; GRIGOR'YEV, A.A.; KLIMENKO, M.Ya.

Preparation of a new flotation reagent - 1,1,3-triethoxybutane.  
Khim.prom. no.3:176-181 Mr '62. (MIRA 15:4)  
(Butane)

ALIYEV, A.D.; ARBATSKIY, A.V.; SHISHKINA, M.V.; KRENTSEL', B.A.

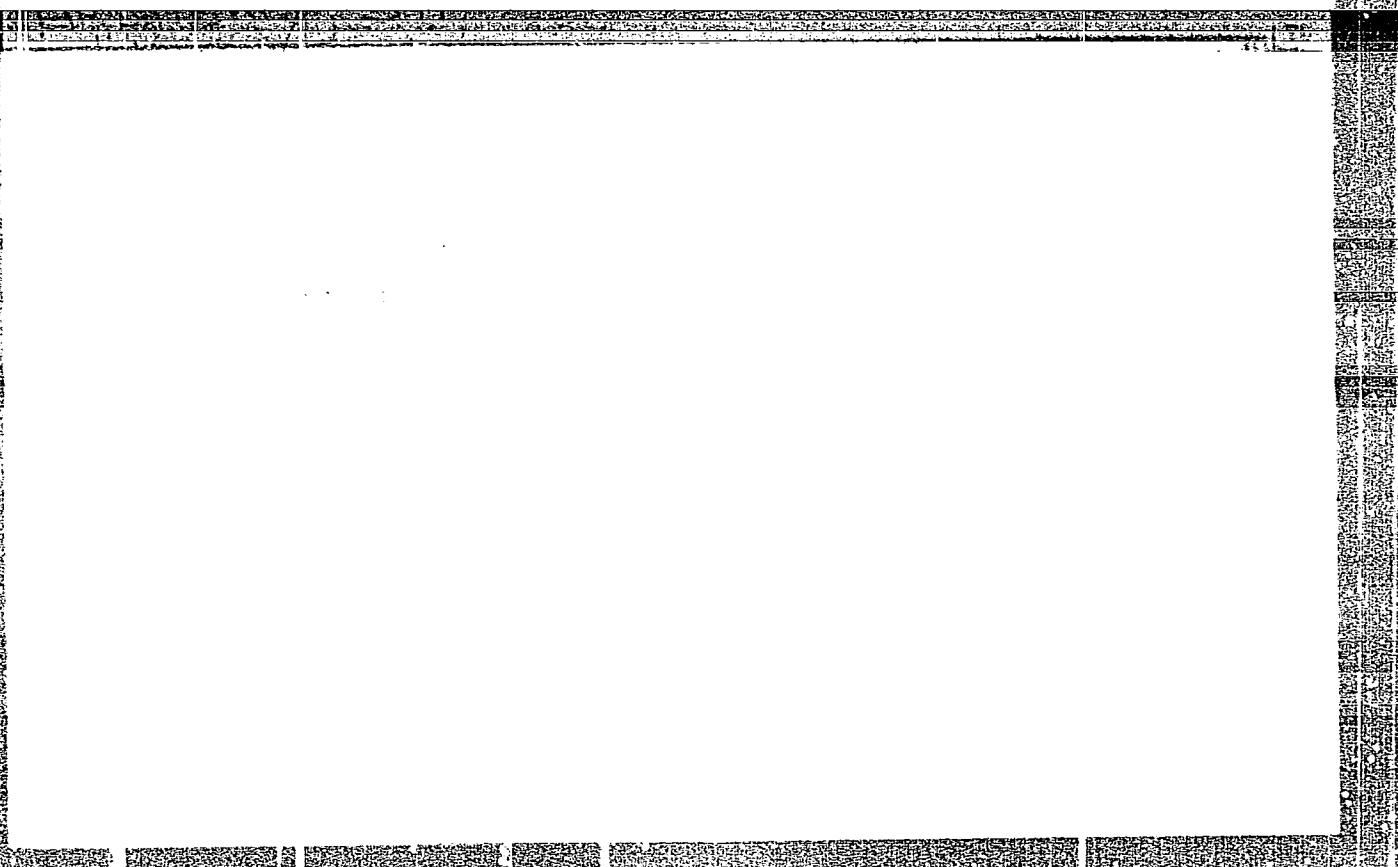
Stereospecific polymerization of trans-1-phenyl-1,3-butadiene.  
Dokl. AN SSSR 153 no.2:333-335 N '63. (MIRA 16:12)

1. Institut neftekhimicheskogo sinteza AN SSSR. Predstavleno  
akademikom V.A.Karginym.



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ARAYEV, S. A.

ARAYEV, S. A.--"The Polytherm of Solubility of Sodium and Potassium Chlorides in Sucrose Solutions at 20-60 Degrees, and The Solid Phases." Acad Sci Kazakh SSR. Inst of Chemical Sciences. Frunze, 1955. (Dissertation for the Degree of Candidate of Chemical Sciences).

SO: Knizhnaya Letopis' No. 27, 2 July 1955

DRUZHININ, I.G.; ARBAYEV, S.A.

Solubility and the solid phases of ternary systems consisting of  
sucrose, sodium chloride, potassium chloride, and water at 20,  
40, and 60°. Izv. AN Kir.SSR.Ser.est.1 tekhnauk 2 no.3:  
95-102 '60. (MIRA 13:9)  
(Sucrose) (Salt) (Potassium chloride)

ARBAYEV, S.A.

Thermal solubility diagram of the ternary system sodium chloride-  
sucrose-water. Report No. 1. Uch. zap. Biol.-pochv. fak. Kir.  
un. no. 7:189-205 '58. (MIRA 15:10)  
(Salt) (Sucrose) (Solubility)

DRUZHININ, I.G.; BAKASOVA, Z.; ARBAYEV, S.A.; IMANAKUNOV, B., otv. red.;  
VAZHEYKO, I.V., red. izd-va; ANOKHINA, M.G., tekhn. red.

[Reaction of saccharose with sodium, potassium, calcium, and  
magnesium chlorides] Vzaimodeistvie sakharozy s khloridami nar-  
tiia, kaliia, kal'tsiia i magniia. Frunze, Izd-vo Akad. nauk  
Kirgizskoi SSR, 1962. 145 p. (MIRA 16:2)  
(Sucrose) (Alkali metal chlorides)  
(Alkaline earth chlorides)

DRUZHININ, I.G.; BAKASOVA, Z.; ARBAYEV, S.A.; IMANAKUNOV, B., otv.red.;  
VOZHEYKO, I.V., red.izd-va; ANOKHINA, M.G., tekhn. red.

[Reaction of saccharose with sodium, potassium, calcium, and  
magnesium] Vzaimodeistvie sakharozy s khloridami natriia,  
kaliia, kal'tsiia i magniia. Frunze, Izd-vo Akad.nauk  
Kirgizskoi SSR, 1962. 145 p. (MIRA 16:4)  
(Sucrose) (Chlorides)

NIKITINA, Ye.V.; AYDAROVA, R.A.; DZHANAYEVA, V.M.; UBUKEYEVA, A.U.;  
~~ARBAYEVA, Z.S.~~; SUDNITSYNA, I.G.; SULTANOVA, R.M.; GORBUNOVA,  
N.V.; TKACHENKO, V.I.; FILATOVA, N.S.; CHERNEVA, O.V.;  
VVEDENSKIY, A.I., nauchn. red.; VYKHODTSEV, I.V., otv. red.

[Flora of the Kirghiz S.S.R.; a guide to the plants of the  
Kirghiz S.S.R.] Flora Kirgizskoi SSR; opredelitel' rastenii  
Kirgizskoi SSR. Frunze, Ilim. Vol.11. 1965. 606 p.  
(MIRA 18:11)

ARRAYT, I.I.

Experience with the continuous method of fermentation. Spirt. prom.  
24 no.8:25-27 '58. (MIRA 11:12)  
(Blagoveshchensk (Amur Province--Fermentation))



DERBAREMDIER, M.I.; SEREENRENNIKOVA, K.L.; TERNOVSKIY, V.A.; Irinimali  
uchastiye: SHAROV, P.M.; NOVIKOV, L.Z.; LUR'YE, E.I.; PES'MEN,  
M.K.; KARABIN, A.I. [deceased]; KOSTIN, L.I.; FROLOV, V.P.;  
MEDVEDEV, F.V.; GELIMKHANOV, S.G.; BONDAR', V.G.; TIMOFEYEV,  
P.I.; MININA, L.V.; ARBEEKOV, F.F.; NIKOLAYEV, N.I.; YAROSLAV,  
T.Ye.; NUDEL'MAN, V.G.

Gasification of mazut under pressure in a steam-oxygen blast.  
Gaz. prom. 9 no.11:49-50 '64. (MIRA 17:12)

TAREYEVA, I.Ye.; PRISS, I.S.; ROZANOVA, L.B.; ARBENINA, N.S.; ROZENELAT,  
V.M.; POD'YAGEL', M.I.

Outcome of Botkin's disease. Vop.med.virus. no.9:254-259 '64.  
(MIRA 18:4)

1. Iz laboratorii deystvitel'nogo chlena AMN SSSR prof. B.M.  
Tarayeva.

ARBEN'YEV, A., inzh.; ZOBNIN, A., inzh.

Effective method of winter concreting. Na stroi. Ros. 3 no.10:  
23-24 0 '62. (MIRA 16:6)

(Concrete construction—Cold weather conditions)

ARBEN'yev, A.

Placing concrete in winter with brief electric heating of the mix.  
Stroitel' 9 no.5:25-27 My '63. (MIRA 16:9)  
(Concrete construction—Cold weather conditions)

ARBEN'YEV, A.<sup>S</sup>, inzh.

Open pit working of clay under winter conditions in Kuznetsk Basin.  
Stroi. mat. 4 no.9:29-30 S '58. (MIRA 11:10)  
(Kuznetsk Basin--Clay)

ARBEN'YEV, A.S., inzh.

Learning to work with the keramzit unit at a brick factory.

Stroi.mat. 6 no.4:26-27 Ap '60. (MIRA 13:6)

(Iyskovo--Building materials industry--Equipment and supplies)

ARBEN'YEV, A.S., inzh.

Electric curing of a mixture and strength of concretes.

Stroi. mat. 9 no.10:39-40, 3 of cover 0 '63.

(MIRA 16:11)

ARBEN'YEV, A.S., inzh.

Study of the properties of concrete placed in Siberia in  
the wintertime. Bet. 1 zhel.-bet. 9 no.11:519-521 N '63.  
(MIRA 17:1)



ARBEN'YEV, A.S., inzh.

Winter concreting with electric heating of the mix.  
Prom. stroi. 40 no.9:27-29 '62. (MIRA 15:11)  
(Concrete construction - Cold weather conditions)

ARBEN'YEV, A.S., inzh.

Studying the properties of concrete subject to freezing at temperatures up to  $-50^{\circ}$  C. Trudy Zap.-Sib. fil. ASiA no.7:85-92 '62.

Extending the area of the use of the thermos method. Ibid.:93-97  
(MIRA 18:2)

ARBEN'YEV, Aleksandr Sergeyevich, inzh.; ANTONOVA, N.N., inzh., red.

[Concreting under winter conditions with electrically heated mixes; according to materials of the Novokuznetsk Section of the West-Siberian Branch of the Academy of Construction and Architecture of the U.S.S.R.] Betonirovanie v zimnikh usloviakh s elektropodogrevom betonnoi smesi; po materialam Novokuznetskogo otdeleniia Zapadno-Sibirskogo filiala ASIA SSSR. Moskva, Gosstroizdat, 1963. 33 p.

(MIRA 17:10)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Rukovoditel' laboratorii stroitel'nykh materialov Novokuznetskogo otdeleniia Zapadno-Sibirskogo filiala Akademii stroitel'stva i arkhitektury SSSR (for Arben'yev).

ARBEN'YEV, A.S., inzh.; KOZLOV, A.D., inzh.; LEPEKHIN, I.P., inzh.; SUDAKOV,  
V.F., inzh.

Winter concreting of foundations with electric curing of the  
concrete mix. Prom. stroi. 42 no.9:41-42 S '64. (MIRA 17:10)

L 05912-67 EWT(m)

ACC NR: AP6015957

(A)

SOURCE CODE: UR/0097/66/000/001/0027/0029

AUTHOR: Arben'yev, A. S. (Candidate of technical sciences)

ORG: None

TITLE: A new method for winter application of concrete <sup>11</sup><sub>B</sub>

SOURCE: Beton i zhelezobeton, no. 1, 1966, 27-29

TOPIC TAGS: concrete, concrete equipment, hydration, transportation equipment

ABSTRACT: The author proposes a broader application of the vacuum bottle method which consists of brief electric heating of the concrete mixture before laying. A study is described which was carried out at the Novokuznetsk Division of the Ural Scientific Research Institute of Reinforced Concrete under the direction of Professor S. A. Mironov on the effect of low temperatures on concrete mixture during transportation. Grade 200 concrete was used with a water to cement ratio of 0.4-0.7 and cone runoff from 2 to 12 cm with various admixtures of NaCl, CaCl<sub>2</sub> and sulfite waste liquor which did not exceed more than 2% of the total cement weight. All test specimens were made from the same batch and held at various temperatures to ensure fully comparable results. The concrete mixture was cooled in a special container and heated by current flowing through the container walls. The specimens were tested after outside exposure for 1, 3 and 28 days and 28 days after standard storage. The results show that con-

Card 1/2

UDC: 693.547.3

L 05912-67

ACC NR: AP6015957

0

crete mixture cooling during transportation under cold conditions causes intense cement hydration. Concrete strength can be increased from 20 to 30% at low concrete mixture temperature or by using cold fillers during hardening under ordinary conditions. High temperature heating of fillers and long transportation in cold weather produces heat losses and induces concrete hardening which interferes with application. Short duration electric concrete mixture heating before laying does not disturb the structure of the mixture and increases cement hydration. The strength of concrete produced in this manner is 2 to 3 times better than that of ordinary concrete. Electric heating before concrete laying makes it possible to broaden the application of the vacuum bottle method. This ensures 50% mark hardness with normal physical and mechanical properties at temperatures up to 243°K in average structures with surface modules up to 10. The use of quick hardening cements or warming molds makes it possible to achieve 70% mark strength of the concrete before it freezes. Orig. art. has: 10 figures.

SUB CODE: 11/ SUBM DATE: None/ ORIG REF: 004

kh

Card 2/2

ARBET, J.

Hydraulic duplex cylinder. Stroj vyr 9 no.7:336 '61.

1. Vyskumny ustav kabelov a izolantov, Bratislava.

ARBET, Jan

Braking drum for unwinding of fine fabrics. Stroj vyr 10  
no.7:359 '62.

1. Vyskumny ustav kabelov, Bratislava.



4RBET, Jan

Synchronizing revolutions and circumferential speeds by means of hydromotors. Stroj vyr 12 no.8:583-584 '64.

1. Research Institute of Cables and Insulators, Bratislava.

ACBINA, T.F.

4

Continuous production of isoborneol acetate from camphene. ~~G. A. Rudakov, Z. S. Khomchenko, and T. P. Artyukhin. Gidroliz i Lesokhim, Prom. 8, No. 2, 3-4(1966).~~ C. 77

Isoborneol acetate (I) was made by the reaction of camphene (II) and glacial AcOH (III) in the presence of cation exchange resins bearing sulfonic groups (IV); 2% water was permissible in III, and a higher diln. was prevented by the addn. of 10% AcOH. The type of IV was of the utmost importance, and under the favorable conditions the yield was 80%. Esterification of II with  $H_2O_2$  under the same conditions was sluggish owing to the greater amt. of water in  $H_2O_2$ . T. Lurye.

12

TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.

"APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000101910020-7

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000101910020-7"

TSURINOVA, Ye.G.; ARBISMAN, D.M.

Dynamics of protein fractions in the serum of fibrinolytic  
blood in relation to the period of its preparation and  
preservation. Probl. gemat. i perel. krovi 9 no.3:45-49  
Mr '64. (MIRA 17:10)

1. Nauchno-issledovatel'skiy institut skoroy pomoshchi imeni  
Yu.Yu. Dzhanelidze (dir.- prof. G.D. Shushkov).

ARBIT, Ye.A.; SEREBRENNIKOV, V.V.

Compounds of rare-earth elements and yttrium with vanadic acids. Zhur. neorg. khim. 10 no.2:410-413 F '65.

1. Submitted July 5, 1963.

(MIRA 18:11)

ARBITAN, A.A.

Design and calculation of the structure of artificial fur with  
a woven base. Leh. prom. no.3:63-66 JI-S '65. (MIRA 18:9)

ARBITAN, A.A.; BYCHKOVA, I.I.; GORDIYENKO, M.G. [Hordiienko, M.H.];  
KUCHER, I.E.

Interfacing fabrics for the collars and cuffs of men's shirts  
made from synthetic materials. Leh.prom. no.1:9-10 Ja-Mr '64.  
(MIRA 19:1)

Intensification of the styrene polymerization process for  
the production of polymers with predetermined properties.

S. M. A. Dill and W. M. Sternberg

The polymerization of styrene was studied in the presence of  
propylbenzene hydroperoxide with various reducing agents  
( $\text{FeSO}_4$ ,  $\text{Na}_2\text{SO}_3$ ,  $\text{Na}_2\text{S}_2\text{O}_4$ ), and (II) with  $\text{Bz}_2\text{O}_2$  or  $\text{K}_2\text{S}_2\text{O}_8$ .  
The preferred formula contained styrene 104,  $\text{H}_2\text{O}$  208, K  
caster oil soap 2.08 g, 13.4, and  $\text{Na}_2\text{SO}_3$  4.76 mmol. Curves  
were reproduced of the mol. wt. of the polymers obtained  
during different polymerization times, the kinetic curves at  
various temps., the polymerization rates at different temps.,  
the polymerization rates at different I contents, and the rates  
of action of I on the system.

W. M. Sternberg



ARBITMAN, S.M., Cand Tech Sci -- (diss) "Study of the  
*Continuous*  
~~constant~~ process and apparatus *forming* ~~control~~ of water-emulsion  
polymerization of styrene." Mos 1958, 15 pp (Min of Higher  
Education USSR. Mos Inst of Chem Machine Building) 150 copies  
(KL, 42-58, 115)

- 29 -

AUTHORS: Arbitman, S. M., Levin, A. N.

64-58-2-5/16

TITLE: Continuous Water-Emulsion Polymerization of Styrene  
(Neprieryvnaya vodnoemul'sionnaya polimerizatsiya stirola)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 2, pp. 27-32 (USSR)

ABSTRACT: A method is described which is initiated by an oxidation reduction system and which takes into account the previous works in the field of continuous processes. The plant consists of an "ideal arrangement" of the apparatus according to the grapho-analytical computation method for the ideal order of aggregates for reactions in homogenous liquid phase. A schematic representation of the laboratory plant is given and from it can be seen that the aqueous solution of the emulsifier together with the reducing agent, and styrene together with the oxidizing agent dissolved in it are directed into the emulsifier through siphons, in the emulsifier being a propeller doing 1000 revs/min. From the emulsifier the line leads through a coil in the water thermostat to the three polymerization vessels which are also placed in thermostats. Each polymerizer has a thermometer and a stirrer. From the given operation technique can be seen that

Card 1/3

Continuous Water-Emulsion Polymerization of Styrene

64-58-2-5/16

polymerization begins in the last polymerizer, that then the two before this are supplied after each other and that only then continuous polymerization begins by the full connection of the plant. From a table can be seen that the authors worked according to three methods. The operational parameters of the aggregates are computed grapho-analytically and the given diagrams (velocity curves) of the function of time- and monomer concentration vs. polymerization velocity are obtained by graphical differentiation. From the obtained velocity curves the steady concentrations of each individual polymerizer are computed according to a formula; the practically obtained mean values coincide sufficiently with those calculated. From this is concluded that the grapho-analytical method of computation can be used for this operation process. The determination of the monomer content in styrene was carried out by bromination of the double bond. It was found that the capacity of the plant agreed with the calculations, and that it was very high in the various methods. The schematic representation of a test plant is also given. Among other it can be seen from it that the latex of the last polymerizer is coagulated in a coagulator

Card 2/3

Continuous Water-Emulsion Polymerization of Styrene

64-58-2-5/16

with a water solution of the coagulum and is separated from the monomer, or according to another variant is directly brought into drying atomizer. The latex suspension coagulated and treated with steam can be washed in two different ways. The washed polymer is dried in an air drying apparatus. There are 4 figures, 5 tables, and 5 references, 4 of which are Slavic

AVAILABLE: Library of Congress

1. Styrene--Polymerization
2. Industrial plants--Operation
3. Industrial equipment--Operation
4. Mathematics

Card 3/3

ARBITMAN, S.M.; LEVIN, A.N.

Continuous aqueous emulsion polymerization of styrene. Khim. prom.  
no.2:91-96 Mr '58. (MIRA 11:5)

(Styrene) (Polymerization)

5  
KAMBEVA, A.F., MOZICHENKO, L.A., KECHEVIAN, KH.YE., PAVLICHEV, A.F.,  
ARRIZMAN, S.M., KRUPISOV, B.K.

Experimental data about the production of phthalic anhydride by oxidation of o-xylol

Report to be submitted for the 12th Conference on high molecular weight compounds  
devoted to monomers, Baku, 3-7 April 62

S/064/62/000/006/002/003  
B144/B138

AUTHORS: Khoheyanyan, Kh. Ye., Pavlichev, A. F., Arbitman, S. M.,  
Kuricheva, L. N.

TITLE: Production of phthalic anhydride by liquid-phase oxidation of  
o-xylene

PERIODICAL: Khimicheskaya promyshlennost', no. 6, 1962, 6 - 10

TEXT: On the basis of their previous studies (Author's certificate 136538, Sb. izobr. i rats. predl., no. 7, 80 (1961)) the authors developed a three-stage process for producing phthalic anhydride (PA) from o-xylene: (1) liquid phase oxidation (LPO) of o-xylene to o-toluic acid by atmospheric  $O_2$ ; (2) esterification of o-toluic acid with methanol; (3) LPO of the methyl ester of o-toluic acid to PA and methanol. After a survey of papers in this field, the method is described in detail. (1) LPO of o-xylene ( $d_4^{20} = 0.8700 - 0.8802$ ;  $n_D^{20} = 1.5052$ , b.p. =  $142 - 145^\circ C$ ) was carried out: (a) catalytically at atmospheric pressure and  $128 - 130^\circ C$  with preliminary addition of 5-6 drops of isopropyl benzene hydroperoxide; Card 1/3

S/064/62/000/006/002/003  
B144/B138

Production of phthalic ...

or (b) at elevated pressure without catalyst at 130 and 150°C. The oxidate contained toluic aldehyde and o-toluic acid which were determined with oxime and from the acid value (potentiometric titration), respectively. The yield in o-toluic acid increased with rising pressure and temperature and averaged 90 - 97 %. (2) Oxidation of o-toluic acid necessitates the esterification of the carboxyl group. This was done with ГОСТ 2222-54 (ГОСТ 2222-54) methanol. The reaction rate increased from 45 to 97 % when the temperature was raised from 245 to 300°C. An acid:methanol molar ratio of 1:5 is recommended for industrial conditions. The rate constants at different temperatures were ( $\text{min}^{-1}$ ):  $k_{245} = 0.0619$ ;  $k_{270} = 0.1776$ ;  $k_{300} = 0.2615$ . The activation energy was 11930 cal/mole. (3) The ester is catalytically oxidized to PA at atmospheric pressure and 125 - 200°C. At 180°C, the LPO of the methyl ester obtained ( $n_D^{20} = 1.5200$ ) takes place practically without induction period if 4 - 5 drops of isopropyl benzene hydroperoxide are added. With a 42 % yield, the reaction time at 180°C decreased from 8 hrs at atmospheric pressure to 2 hrs at elevated pressure. PA was separated by cooling the oxidate down to room temperature or by distillation in vacuo; it was obtained with a yield of 90 - 95 % and

Card 2/3



Production of phthalic ...

answered the ГОСТ 7119-54 (GOST 7119-54) requirements. There are  
6 figures.

S/064/62/000/006/002/003  
B144/B138

ASSOCIATION: NISS

Card 3/3

KHCHEYAN, Kh.Ye.; PAVLICHEV, A.F.; ARBITMAN, S.M.; KURICHEVA, L.N.

Production of phthalic anhydride by the liquid phase oxidation  
of o-xylene. Khim.prom. no.6:392-396 Je '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut sinteticheskogo spirita.  
(Phthalic anhydride) (Xylene)

ARBIYEV, K.K., gornyy inzh.; PROTASOV, V.F., kand. ekonom. nauk

Technical progress at ore strip mines of the Noril'sk Combine. Gor. zhur.  
no.6:6-10 Je '65.  
(MIRA 18:7)

ARBIYEV, K.K., gornyy inzh.

Practice of boring and blasting operations in pits of the  
Noril'sk Combine. Gor. zhur. no.7:15-20 J1 '63.  
(MIRA 16:8)

1. Noril'skiy gornometallurgicheskiy kombinat.

ARBOLISHVILI, D.Z.

Geothermal conditions in certain areas of the Georgian S.S.R.  
Geol. nefi 2 no.12:43-47 D '58.

(MIRA 12:2)

1. Ob'yedineniye Gruzinskoy nefyanoy promyshlennosti.  
(Georgia--Earth--Temperature)

ARBOLISHVILI, D.Z.

Prospecting for oil and gas in Mesozoic sediments of western Georgia.  
Azerb. neft. khov. 37 no.9:6-8 S '58. (MIRA 11:12)  
(Georgia--Gas, Natural--Geology)  
(Georgia--Petroleum geology)

ARBOLISHVILI, D.Z.

Oil pools in the Shiraki series of the Patara-Shiraki field. Geol.  
nefti i gaza 4 no.11:37-40 N '60. (MIRA 13:11)

1. Trest Gruzneft'.  
(Georgia--Petroleum geology)

IRBUSOU, S. YA.

Radiation Chemistry of Water  
Monday Afternoon Session A-5-1 (Contd.)

2

concentration of all three acceptors. The variation of the yield as a function of concentration of the competing acceptors will be identical, whereas any variation of concentration of the inactive substance will not influence the yield. The qualitative conclusions are borne out by the results of the quantitative analysis used in the investigation of radiolysis of iron and chromium ions.

*Radiation Chemical Laboratory, Kurchatov Institute, USSR Academy of Sciences, Moscow*

SESSION A-6-1 : Biochemical Response of Brain and Nerves

(a)  
Studies on the Radiopharmacology of the Central Nervous System

*ya*  
S. J. Arbusov

The distribution of <sup>35</sup>S-labelled β-mercapto-ethylamine in the nervous system has been investigated. Three hr after administration, the concentration in the cerebral cortex was found to be higher than that in other tissues. At 6 hr, the amount in the sub-cortical tissues had increased, while, at 24 hr, the drug was concentrated in the brain stem. This drug was found to depress the process of excitation in the cerebral cortex. The sulphur-containing radioprotectors were found to have a sedative action. Imidazole 2-carbonic acid compounds, owing to their sedative action, prevent both excitation and inhibition in the central nervous system, and so protect against radiation injury. Aminazine and phenatin have been found to reduce the extent of impairment, and shorten the time required for recovery of a number of unconditioned responses.

It is suggested that drugs which affect the passage of the nerve impulse should be investigated.

*Department of Pharmacology, Military Medical Academy, Leningrad, USSR*

Report presented at the 2nd Intl. Congress of Radiation Research,  
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug. 1962



ANDRUZHKO, N. V.

Andruzhko, N. V.

"The interrelationship of reactions of the brain and peripheral vessels in delayed consequences of skull and brain wounds." Chair of Normal Physiology, Krasnoyarsk Medical Inst, and Krasnoyarsk Regional Hospital for Invalids of the Patriotic War. Krasnoyarsk, 1956. (Dissertation For the Degree of Doctor in Medical Sciences).

Knizhnaya letopis'

No 34, 1956. Moscow.

ARBUZOV, A.

Radiogram from aboard the "Kooperatsia." Radio no.1:13 Ja '57.  
(Radio, Shortwave) (MLRA 10:2)

ACC NR: AN7001733

SOURCE CODE: UR/9008/67/000/011/0001/0001

AUTHOR: Arbuzov, A. (Guards senior technical lieutenant, Military technologist first class)

ORG: none

TITLE: Military airfield kept in operation during a snowstorm

SOURCE: Krasnaya zvezda, no. 11, 13 Jan 67, p. 1, cols. 4-7

TOPIC TAGS: military airfield, airfield clearing

ABSTRACT: This is a description of the activity and equipment used to keep a military airfield in operation during a sudden snowstorm that raged three days. It is stated that there was no breakdown in the equipment. [NC]

SUB CODE: 15/ SUBM DATE: none/ ATD PRESS: 5109

Card 1/1

ARBUZOV, A.N.

Our experience in organizing school tractor and field crop team.  
Politekh. obuch. no.5:44-49 My '58. (MIRA 11:5)

1. Zmiyevskaya srednyaya shkola Sverdlovskogo rayona Orlovskoy oblasti.

(Field work (Educational method))

ARBUZOV, A.N.

Rural schools and their part in the future development of  
collective farming.. Politekh. obuch. no.9:12-13 S '58.

(MIRA 11:10)

1. Direktor Zmiyevskoy sredney shkoly Sverdlovskogo rayona  
orlovskoy oblasti.

(Sverdlovskiy District--Technical education)

PA 34/49T20

ARBUZOV, A. YA.

USSR/Medicine - Nervous System, Sep/Oct 48  
Effects of Drugs on  
Medicine - Nervous System, Physiology

Effects of Antagonism and Synergism Between  
Drugs and Sympathomimetic Amines on the Action  
of the Central Nervous System of Vertebrates:  
II, Changes in the Latent Period of Reflex and  
Body Temperature Under the Influence of Sympa-  
thomimetic Amines, and Their Stimulating Action  
in Comparison to Drugs, A. Ya. Arbuzov, Chair  
of Pharmacol, All Med Acad Imeni S. M. Kirov,  
12 pp

34/49T20

"Viziol Zhur SSSR" Vol XXIV, No 5  
USSR/Medicine - Nervous System, Sep/Oct 48  
Effects of Drugs on  
(Contd)

Describes experiments on rabbits. Narcotics  
used were chloral hydrate and medinal. Amines  
used were adrenalin, piritin, phenamin,  
ephedrin, and sympathol. Results are tabulated,  
plotted and discussed. Submitted 15 Feb 47.

34/49T20

| 1ST AND 2ND ORDERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |  |  |  |  | 3RD AND 4TH ORDERS |  |  |  |  |  |  |  |  |  |
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| PROCESSES AND PROPERTIES INDEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| <p>ca</p> <p>10</p> <p>Acetal of camphor. A. R. ARBUZOV, <i>J. Russ. Phys.-Chem. Soc.</i> 61, 1595 7 (1920).—Acetal of camphor was first obtained in 1808 from camphor and <math>\text{HC}(\text{OR})_2</math> in alc. in presence of <math>\text{H}_2\text{SO}_4</math>. Besides, a product b. p. <math>82.3^\circ</math> was obtained, supposedly a compd. of camphor and alc. Other investigators (C. A. 21, 1807) repeated these expts. and stated that the above was a mixt. of <math>\text{HC}(\text{OR})_2</math> and camphor. In more recent work Arbuzov failed to obtain a definite fraction b. p. <math>82.3^\circ</math>, and states that, apparently, the above compd. was not formed. However, he also failed to obtain a fraction contg. <math>\text{HC}(\text{OR})_2</math>. The yield of camphor acetal was 04.4% of the theoretical, others obtained 25-30%. It is very stable, but in presence of acid, water splits it easily into alc. and camphor.</p> <p>ROBERT SCHLESS</p> |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| ASB-11A METALLURGICAL LITERATURE CLASSIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| 1ST ORDER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |  |  |  |  |  |  | 2ND ORDER          |  |  |  |  |  |  |  |  |  |
| 3RD ORDER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |  |  |  |  |  |  | 4TH ORDER          |  |  |  |  |  |  |  |  |  |

| PROCESSING AND PROPERTIES INDEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| 1ST AND 2ND ORDERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |  |  |  |  |  |  |  | 3RD AND 4TH ORDERS |  |  |  |  |  |  |  |  |  |  |  |  |
| <p><i>ca</i></p> <p><b>Phosphonocarboxylic acids containing an asymmetrical phosphorus atom.</b> A. E. ARBUZOV AND B. A. ARBUZOV. <i>J. Russ. Phys. Chem. Soc.</i> 61, 1599 (1929).<br/>           Harber attempts to prep. optically active isomerides of phosphinic acid derivatives are briefly summarized, and the prepn. of <i>phenylphosphonacetic acid</i>, <math>\text{HOP}(\text{OPh})\text{CH}_2\text{CO}_2\text{H}</math> and <i>phenyl-<math>\alpha</math>-phosphonopropionic acids</i>, <math>\text{HOP}(\text{OPh})\text{CH}(\text{Me})\text{CO}_2\text{H}</math>, is described. Phenylphosphonacetic acid, m. 121.5-2.3°, was obtained as the Et ester, b. 195-8°, d. 1.122, by the action of diisobutyl phenylphosphite, <math>\text{P}(\text{OC}_4\text{H}_9)_2</math>, b. 152.5° (from phosphenyl chloride and iso-BuONa), on <math>\text{BrCH}_2\text{CO}_2\text{Et}</math>. The alkaloid salts of the acid could not be resolved into optically active components. <i>Phenyl-<math>\alpha</math>-phosphonopropionic acid</i>, m. 108-9°, was prepd. by the same method as the Et ester, b. 191-3°, d. 1.1033, from diisobutyl phenylphosphite and <math>\text{MeCHBrCO}_2\text{Et}</math>.</p> <p style="text-align: right;">B. C. A.</p> |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |



| 1ST AND 2ND ORDERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3RD AND 4TH ORDERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| PROCESSES AND PROPERTIES INDEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>Phosphoric acids containing an asymmetrical phosphorus atom. A. B. ARBUZOV AND IRINA A. ARBUZOVA. <i>J. Russ. Phys.-Chem. Soc.</i> 61, 1905-8(1929).—Phenylisobutylphosphinic acid and phenyltriphenylmethyolphosphinic acid were synthesized, and unsuccessful attempts made to resolve them into optical isomerides by salt formation with alkaloids. <i>Phenylisobutylphosphinic acid</i>, m. 64-5°, was obtained by the action of iso-BuI on the ester <math>\text{P}^{\text{H}}(\text{OC}_6\text{H}_5)_3</math> at 100° in a sealed tube. It did not give crystallizable salts with alkalies or alkaloids. The ester <math>\text{P}^{\text{H}}(\text{OC}_6\text{H}_5)_3</math> and <math>\text{Ph}_3\text{CHr}</math> under similar conditions yielded <i>phenyltriphenylmethyolphosphinic acid</i>, m. 287-8°, which gave cryst. salts with the alkali metals but not with alkaloids. B. C. A.</p> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>ALPHABETIC LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1ST AND 2ND CYCLES

3RD AND 4TH CYCLES

COMMON ELEMENTS

COMMON VARIABLE INDEX

ARBUZOV, A.Ye.

A-3

ASB-SLR METALLURGICAL LITERATURE CLASSIFICATION

E-2

CO

10

Preparation of thiophosphinic acids containing asymmetric phosphorus. A. E. ARBUZOV AND G. KH. KAMAL. *J. Russ. Phys.-Chem. Soc.* 61, 2037-42 (1929).—Various acids of the types  $\text{PRR'SOH}$  and  $\text{PRR'SSH}$  have been prepd. with the object of obtaining them in optically active forms. The only one to be obtained cryst. is phenyl-, benzylmonothiophosphinic acid, which is being investigated further.  $\text{PPh}(\text{SEt})_2$ ,  $b.p.$  143-4°,  $d_4^{20}$  1.1417, prepd. by treating mercaptan (1 mol.) in ether with Na and phosphorus, forms a cryst. compd. with  $\text{CuBr}$ . At 160° it combines with S giving rise to the compd.  $\text{C}_{11}\text{H}_{11}\text{S}_2\text{P}$ ,  $b.p.$  191-2°,  $d_4^{20}$  1.2201, which is hydrolyzed by  $\text{EtONa}$  to the cryst. salt,  $\text{PPhS}(\text{SEt})\text{ONa}$ , but the corresponding acid could not be obtained cryst. When heated with EtI in a sealed tube at 130°, the thio ether,  $\text{PPh}(\text{SEt})_2$ , undergoes isomerization to form  $\text{PPhEt}(\text{SEt})\text{S}$ ,  $b.p.$  100-70°,  $d_4^{20}$  1.1693, which, with  $\text{EtONa}$ , gives the cryst. *Na phenylethylmonothiophosphinate*,  $\text{PPhEt}(\text{ONa})\text{S}$ , but the corresponding acid was obtained only as a sirup. The isobutyl ether,  $\text{PPh}(\text{SC}_4\text{H}_9)_2$ ,  $b.p.$  191-2°,  $d_4^{20}$  1.0637, forms  $\text{S:PPh}(\text{SC}_4\text{H}_9)_2$ , with flowers of S, and, when treated with  $\text{BrCH}_2\text{CO}_2\text{H}$ , yields a product giving the cryst. Na salt,  $\text{S:PPh}(\text{ONa})_2$ ,  $\text{CH}_3\text{CO}_2\text{Na}$ ; the corresponding acid and its cinchonine and brucine salts did not crystallize. The action of  $\text{ICH}_2\text{CH}_2\text{CO}_2\text{Et}$  on the thio ether,  $\text{PPh}(\text{SC}_4\text{H}_9)_2$ , gives  $\text{C}_6\text{H}_5\text{O}_2\text{SP}$ ,  $b.p.$  200-6°, but hydrolysis of this failed to give a cryst. acid. Treatment of the thio ether,  $\text{PPh}(\text{SEt})_2$ , with  $\text{PhCH}_2\text{Cl}$  at 200° gave  $[\text{S:PPh}(\text{CH}_2\text{Ph})\text{Sh}]$ ,  $m.$  145-6°, and an oily compd.  $\text{S:PPh}(\text{CH}_2\text{Ph})\text{SEt}$ ,  $b.p.$  210-8°,  $d_4^{20}$  1.1820. The action of  $\text{PhCH}_2\text{Cl}$  on the ether  $\text{PPh}(\text{SC}_4\text{H}_9)_2$  at 210° gave the compd.,  $m.$  145-6°, similarly obtained from the ether,  $\text{PPh}(\text{SEt})_2$ , but vacuum distn. of the residue led to rapid decompn., so that this residue was hydrolyzed directly, with formation of phenyl-benzylmonothiophosphinic acid,  $\text{S:PPh}(\text{CH}_2\text{Ph})\text{OH}$ ,  $m.$  173-4°.

B. C. A.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

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| 1ST AND 2ND ORDERS                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3RD AND 4TH ORDERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| PROCESSES AND PROPERTIES INDEX                                                                                                                                                                                                                                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p><i>co</i> <span style="float: right;"><i>22</i></span></p> <p>Laboratory dephlegmatic columns for distillation of turpentine. <u>A. B. ARBUZOV.</u><br/> <i>Zhur. Prikladnoi Khimii</i> 3, 99-103(1930).—Improved lab. app. is described.<br/> V. KALICHEVSKY</p> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>45W.5LA METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STONY BODILTY                                                                                                                                                                                                                                                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | STONY BODILTY      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STONY BODILTY                                                                                                                                                                                                                                                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | STONY BODILTY      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



Free radicals. A. E. ARBUZOV. *Uspekhi Khim. (Progress Chem. (U. S. S. R.))* 1, 190-253(1932).--A review of the work done on the triphenylmethyl and tetraphenylhydrazine types of free radicals with a physicochemical discussion. F. H. RATHMANN

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

60

Reducing action of organic magnesium compounds. The action of cyclohexylmagnesium bromide and cyclohexylmagnesium iodide on benzophenone. A. E. Annuzov and I. A. Annuzova. *J. Gen. Chem.* (U. S. S. R.) 2, 388 (1932), cf. Tr. Stojilov and Sverdlova, preceding abstract. The results obtained by the action of  $\text{C}_6\text{H}_{11}\text{MgBr}$  and  $\text{C}_6\text{H}_{11}\text{MgI}$  on  $\text{Ph}_2\text{CO}$  fully confirm the view that the 1st products of interaction of org. Mg compds. with aldehydes and ketones are free radicals with trivalent C of the type of the metal ketyl of Schlenk (C. A. 3, 2839; 5, 113, 1580; 22, 4483)  $\text{RR}'\text{CO} + \text{NMgR}'' \rightarrow \text{RR}'(\text{XMgO})\text{C} \dots + \text{R}''$ . The product of interaction of  $\text{Ph}_2\text{CO}$  and  $\text{C}_6\text{H}_{11}\text{MgBr}$  was redistd. in *vacuo* and each fraction recrystd., giving 30.7%  $\text{Ph}_2\text{CO}$ , m.  $40^\circ$ , 5.9% benzohydrol (III) m.  $67-7.5^\circ$ , 13.4% benzopinacol (II), m.  $185-6^\circ$ , and 9% cyclohexylidenediphenylmethane (IV), m.  $84-5^\circ$  (% is based on the amt. of  $\text{Ph}_2\text{CO}$  used in the reaction). The formation of these products can be explained by the scheme:  $\text{Ph}_2\text{CO} + \text{C}_6\text{H}_{11}\text{MgBr} \rightarrow \text{Ph}_2\text{C}(\text{OMgO})\text{C} \dots + \text{C}_6\text{H}_{11}$ . The recovered  $\text{Ph}_2\text{CO}$  may be the result of oxidation with  $\text{O}_2$  of the above ketyl and of some unchanged  $\text{Ph}_2\text{CO}$ . By addn. of  $\text{C}_6\text{H}_{11}$  to ketyl and decompn. with  $\text{H}_2\text{O}$  is produced an alc. which on distn. loses  $\text{H}_2\text{O}$  and gives IV:  $\text{Ph}_2\text{C}(\text{OMgO})\text{C}_6\text{H}_{11} + \text{H}_2\text{O} \rightarrow \text{Ph}_2\text{C}(\text{OH})\text{C}_6\text{H}_{11} - \text{H}_2\text{O} \rightarrow \text{Ph}_2\text{C}:\text{C}_6\text{H}_{11}$ . By the combination of 2 ketyl radicals and the action of  $\text{H}_2\text{O}$  is produced II. By mutual oxidation and reduction of  $\text{C}_6\text{H}_{11}$  and ketyl must be formed  $\text{C}_6\text{H}_{11}$  and benzohydrolate:  $\text{Ph}_2\text{C}(\text{BrMgO})\text{C} \dots + \text{C}_6\text{H}_{11} \dots \rightarrow \text{Ph}_2\text{CH}(\text{OMgBr}) + \text{C}_6\text{H}_5$ . The interaction of  $\text{Ph}_2\text{CO}$  and  $\text{C}_6\text{H}_{11}\text{MgI}$  produced 10.9%  $\text{Ph}_2\text{CO}$ , 21.9% II, 7.7% dicyclohexyl (V), b.  $90-7^\circ$ , 1.26% diphenylcyclohexylcarbinol (VI), m.  $71^\circ$ , 5.1% IV, and 3.6% tetraphenylethane (VII), m.  $211-1.3^\circ$ , and no III. Thus  $\text{Ph}_2\text{CO}$  with  $\text{C}_6\text{H}_{11}\text{MgI}$  gives V and VII, not obtained with  $\text{C}_6\text{H}_{11}\text{MgBr}$ . The formation of V may be thus explained: Under the conditions used the intermediate  $\text{C}_6\text{H}_{11}$  and  $\text{Ph}_2(\text{IMgO})\text{C} \dots$  do not undergo the reaction of mutual oxidation and reduction as in the case of  $\text{C}_6\text{H}_{11}\text{MgBr}$  but combine

ASAC-314 METALLURGICAL LITERATURE CLASSIFICATION

thus:  $2\text{Ph}(\text{IMgO})\text{C} \dots + 2\text{C}_6\text{H}_6 \longrightarrow \text{C}_6\text{H}_5\text{C}_6\text{H}_5 + \text{PhC}(\text{OMg})\text{C}(\text{OMg})\text{Ph}$   
 which may explain the formation of much II and none of III. The formation of VI is  
 difficult to explain; it must be caused by reduction, the required  $\text{H}_2$  being probably split  
 from  $\text{C}_6\text{H}_6$ .  
 CHAS. BLANC



ca

10

Catalytic decomposition of the hydrazones of ethyl ketone. A. R. ARBUZOV AND V. A. ROTHMEL. *J. Gen. Chem.* (U. S. S. R.) 2, 397-8 (1932). By the method of A. and Friauf (*C. A.* 7, 3599) the catalytic decomn. of Et ketone phenylhydrazones (I) gives *methylethylindole* (II). A mixt. of 0.07 g. of  $ZnCl_2$  and 75 g. of freshly prepd. I, b. 144°, was heated in a metal bath from 180° to 225°, the cryst. residue in the reaction flask was distd. at 11 mm. pressure; the fractions b. 160-65° (46 g.) and 170-5° (3 g.) were combined and redistd., giving 46 g. (60% yield) of II, b. 163°, m. 50.5°; the diplicate m. 160.5°.

CHAS. BLANC

ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

10

2-irradiation. A. K. Arbutov and B. P. Lugovkin.  
 Russ. 31,434, Oct. 31, 1933. Pentosan-contg. substances  
 are heated under pressure in a dil. phosphoric acid soln.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

10

| 1ST AND 2ND COPIES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  | 3RD AND 4TH COPIES |  |  |  |  |  |  |  |  |  |
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| PROCESS AND PROPERTIES INDEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| <p>CH</p> <p>Dibutylphosphorous acid chloride and preparation of butylpyrophosphorous acid from H. A. R. Arbusov and V. S. Abramov. <i>Trans. Bullerov Inst. Chem. Tech.</i> Kazan No. 1, 28-33(1934).—The previous work on the esters of various P acids is discussed (cf. Arbusov and Arbusova, <i>C. A.</i> 25, 2414, 3018; 26, 82, 2168). The method of prepn. of dialkylphosphorous acid chlorides was improved by producing first <math>\text{BuOPCl}_2</math> (I) from <math>\text{PCl}_5</math> and <math>\text{BuOH}</math> (cf. Menshutkin, <i>Ann. chim.</i> 199, 343), which with <math>\text{BuONa}</math> is then converted to <math>(\text{BuO})_2\text{PCl}</math> (II). II with <math>(\text{BuO})_2\text{PONA}</math> gives butylpyrophosphorous acid, <math>(\text{BuO})_2\text{P}_2\text{O}(\text{OBu})_2</math> (III). A yield of 173 g. (about 50%) of I, b.p. 66-7°, resulted by dropping, with mech. stirring, 148 g. <math>\text{BuOH}</math> into 275 g. <math>\text{PCl}_5</math> (the yield of I is reduced to 32.85% by dropping <math>\text{BuOH}</math> alongside of the flask walls instead of directly into <math>\text{PCl}_5</math>). II, b.p. 91.5-2.5°, <math>d_4^{20}</math> 1.014, <math>n_D^{20}</math> 1.445, was obtained in 35 g. yield by introducing, with const. stirring, a calcd. amt. of <math>\text{BuONa}</math>, triturated in dry <math>\text{Et}_2\text{O}</math>, into 173 g. of I in <math>\text{Et}_2\text{O}</math>. Five g. of III, b.p. 175-6°, <math>d_4^{20}</math> 0.9908, <math>n_D^{20}</math> 1.4451, resulted by dropping 13 g. of II into <math>(\text{BuO})_2\text{PONA}</math> (from 1.4 g. Na in 120 cc. of dry <math>\text{Et}_2\text{O}</math> and 10.9 g. <math>(\text{BuO})_2\text{POH}</math>). III with <math>\text{H}_2\text{O}</math> is decomposed into 2 mols. of <math>(\text{BuO})_2\text{POH}</math>, and with <math>\text{Br}_2</math> gives a tetra-Br product. Chas. Blanc.</p> |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| 1ST AND 2ND COPIES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  | 3RD AND 4TH COPIES |  |  |  |  |  |  |  |  |  |
| 1ST AND 2ND COPIES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  | 3RD AND 4TH COPIES |  |  |  |  |  |  |  |  |  |

| 1ST AND 2ND ORDERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |  |  | 3RD AND 4TH ORDERS |  |  |  |  |  |  |  |  |  |
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| PROCESSES AND PROPERTIES INDEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| <p>Catalytic decomposition of ethyl propyl ketone phenylhydrazones. A. E. Arbusov and I. A. Zaitsev. <i>Trans. Baikal Inst. Chem. Tech. Kazan No. 1, 33-8(1934); cf. C. A. 27, 391.</i>—EtPrC:NNHPh, <math>b_p</math> 153°, <math>d_4^{20}</math> 0.8532 (51 g.), was heated with 0.1 g. <math>Cu_2Cl_2</math> at 200-50° and thrice redistd. <i>in vacuo</i>, giving 21 g. of a product, <math>b_p</math> 167°, <math>d_4^{20}</math> 1.0243, analyzing for <math>C_{10}H_{11}N</math>, and may be either 2,3-diethylindole or 2,3-propylmethylindole. The picrate m. 144° and analyzes for <math>C_{10}H_{11}N.C_6H_5(NO_2)_3.OH</math>. C. B.</p> |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| 1ST AND 2ND ORDERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |  |  | 3RD AND 4TH ORDERS |  |  |  |  |  |  |  |  |  |